

Versions With Markings to Show Changes Made

IN THE CLAIMS:

Claim 1-3 and 5-6 have been amended and New Claims 7-10 have been added.

1. (Amended) An apparatus for providing I/O access to an optical storage media on at least one data storage device across a network, and the apparatus comprising:

a network module configured to couple to the network for sending and receiving data packets;

a first stage coupled to the network module for receiving the data packets to be written to the optical storage media; ~~at least a first stage and~~

a second stage serially coupling the ~~network module~~ first stage to the at least one storage device, and the second stage for aggregating the received data packets corresponding with a plurality of files from the first stage and writing aggregated data corresponding thereto to the optical storage media on the at least one storage device.

~~;~~ ~~and logic responsive to a received data packet from the network to serially move data from the received data packet from said network module through each of said first and said second stages to the at least one storage device, and the logic further responsive to a read request from the network to send a data packet to the network via said network module from whichever of said at least first and second stages and the at least one storage device includes the data.~~

2. (Amended) The apparatus of Claim 1, further comprising:

~~with said logic further operative to coalesce received data packets corresponding with a single file or data stream in said first stage.~~

a processor coupled to the first stage, the second stage and the at least one storage device, and the processor generating data structures for the received data packets in a format selected for the optical storage media and with addresses corresponding with the location of

the data packets in selected ones of the first stage, the second stage, and the optical storage media.

3. (Amended) The apparatus of Claim 1 ~~2~~, ~~with said logic further operative to aggregate received data packets corresponding with a plurality of files or files in said second stage.~~ wherein the data structures include:

information control blocks (ICBs) each associated with a file and each containing a list of extents for the associated file and with selected ones of the extents corresponding with a coalescing of sequential packets from a selected file into a larger extent.

5. (Amended) An apparatus for providing I/O access to at least one data storage medium across a network, and the apparatus comprising:

a network module configured to couple to the network for sending and receiving data packets;

at least one data storage device coupled to said network module and the at least one data storage device for providing an input and an output of datum stored on the at least one data storage medium in directory and file structures ;

a hard drive coupled to said network module ~~for the caching of at least one of file structures for the stored datum and file structures together with the corresponding datum stored on the at least one data storage medium ;~~ and

a processor coupled to the at least one data storage device and the hard drive, and the processor logic for determining a selected cache policy for said at least one data storage device based on a user selection and for responsive to a boot up of the at least one data storage device to caching cache on said the hard drive a corresponding selected cached one of the directory and file structures corresponding with the directory and file structures on the at least one data storage medium and or the corresponding directory and file structures together with the corresponding datum responsive to the user input .

6. (Amended) A method for providing I/O access across a network to at least one data storage medium with datum stored in directory and file structures across a network, and the

method comprising the acts of:

coupling to the network for sending and receiving data packets;

~~providing an input and an output of datum stored on the at least one data storage medium; and~~

caching during a boot phase of operation a selected cached at least one of directory and file structures for the stored datum corresponding with the directory and file structures on the at least one data storage medium or the corresponding directory and file structures together with the corresponding datum stored on the at least one data storage medium responsive to a user selection;

responding to an I/O access request to display the associated directory and file structures for the at least one data storage medium to display a cached copy of the directory and file structures; and

responding to an I/O access request to read datum corresponding with a file on the at least one data storage medium to read a cached copy of the datum when the selected cached one includes the corresponding datum.

7. (New) The apparatus of Claim 5, with the processor further responsive to a request to display the directory and file structures for the at least one data storage medium to display a cached copy of the directory and file structures from the hard drive.

8. (New) The apparatus of Claim 5, with the processor further responsive to a read I/O access request for a file on the at least one data storage medium to read the corresponding datum from the hard drive when the selected cached one includes the corresponding datum.

9. (New) The method of Claim 4 further comprising:

generating data structures for the received data packets in a format selected for the optical storage media and with addresses corresponding with the location of the data packets in selected ones of the first stage, the second stage, and the optical storage media.

10. (New) The method of Claim 4, wherein the data structures include:

information control blocks (ICBs) each associated with a file and each containing a list of extents for the associated file and with selected ones of the extents corresponding with a coalescing of sequential packets from a selected file into a larger extent.